

Amendments to the Claims:

This listing of the claims replaces all such prior listings in this case.

Listing of Claims

1-5. (Cancelled)

6. (Currently amended) A head stack assembly ~~for a disk drive, the disk drive including a storage disk, the head stack assembly~~ comprising:

an actuator arm;

a coarse positioner that moves the actuator arm relative to ~~a~~ the storage media disk;
a ~~data transfer transducer~~ assembly including a load beam, a flexure secured to the

load beam, and a data ~~transfer member transducer~~ secured to the flexure;

~~a separately formed~~ base plate securing the ~~data transfer transducer~~ assembly to the
actuator arm, the base plate having a thickness that is about three times or more

the thickness of the load beam, the base plate further including (i) one or more

edges, (ii) a pair of flex sections that cantilever away from at least one of the
edges, the flex sections allowing the base plate to flex, and (iii) a pair of spaced
apart positioner cavities that are positioned between the flex sections; and

a fine positioner secured to the base plate, the fine positioner being positioned in the
positioner cavities, the fine positioner moving a portion of the base plate relative
to the actuator arm.

7-8. (Cancelled)

9. (Previously presented) A disk drive comprising the head stack assembly of claim 6, and a storage disk.

10. (Currently amended) The disk drive of claim 9 further comprising a control system that (i) directs current to the coarse positioner to move the actuator arm so that the data transducer is positioned near a ~~the~~ target track and (ii) directs current to the fine positioner to move the base plate so that the data transducer is positioned on the target track.

11. (Currently amended) The disk drive of claim 9 further comprising a control system that (i) directs current to the coarse positioner to move the actuator arm so that the data transducer is on a ~~the~~ target track, and (ii) directs current to the fine positioner to selectively move the base plate to maintain the data transducer on the target track.

12. (Cancelled)

13. (Previously presented) The disk drive of claim 9 wherein the fine positioner is a piezoelectric motor.

14-21. (Cancelled)

22. (Currently amended) A data storage device ~~disk drive~~, comprising:

an actuator arm;

a data transfer transducer assembly including a load beam and a data transfer member transducer coupled to the load beam;

a ~~separately formed~~ base plate that secures the data transfer transducer assembly to the actuator arm, the base plate including a pair of flex sections ~~section~~ that allows the base plate to flex; and

a fine positioner including a pair of piezoelectric motors positioned so that the pair of flex sections are between the pair of piezoelectric motors, the fine positioner that is secured to the base plate ~~so that the fine positioner does not contact the flex section, the fine positioner~~ to selectively flex flexing at least a portion of the base plate.

23.-27. (Cancelled)

28. (Currently amended) The data storage device ~~disk drive~~ of claim ~~[[23]]~~ 22 wherein at least one of the piezoelectric motors is secured to the base plate under compression.

29. (Currently amended) The data storage device ~~disk drive~~ of claim ~~[[23]]~~ 22 wherein each of the piezoelectric motors is secured to the base plate under compression.

30. (Currently amended) The data storage device ~~disk drive~~ of claim [[23]] 22 wherein the base plate includes a plate mount that secures the base plate to the actuator arm, and wherein at least one of the piezoelectric motors is secured to the base plate substantially between the plate mount and the data transfer member transducer.

31. (Currently amended) The data storage device ~~disk drive~~ of claim 30 wherein the piezoelectric motors are positioned substantially parallel to each other.

32. (Currently amended) The data storage device ~~disk drive~~ of claim [[23]] 22 wherein at least one of the piezoelectric motors includes a proximal end and a distal end, and wherein the proximal end and the distal end are the only portions of the at least one piezoelectric motor that contact the base plate.

33. (Currently amended) The data storage device ~~disk drive~~ of claim 22 wherein the flex section is substantially U-shaped.

34. (Currently amended) The data storage device ~~disk drive~~ of claim 22 wherein the flex section is substantially V-shaped.

35. (Currently amended) The data storage device ~~disk drive~~ of claim 22 wherein the base plate includes a plate side, and wherein the flex section cantilevers away from the plate side.

36. (Currently amended) The data storage device ~~disk drive~~ of claim 22 wherein the base plate includes a pair of plate sides and a pair of flex sections, and wherein each of the flex sections cantilevers away from a corresponding plate side.

37. (Currently amended) A data storage device ~~disk drive~~, comprising:

an actuator arm;

a data transfer transducer assembly including a load beam and a data transfer member ~~transducer~~ coupled to the load beam;

a ~~separately-formed~~ base plate that secures the data transfer transducer assembly to the actuator arm, the base plate having a thickness that is about three times or more the thickness of the load beam; and

a first piezoelectric motor having a proximal end and a distal end, the ~~that~~ ends being secured to the base plate so that the first piezoelectric motor is under compression, the first piezoelectric motor selectively moving a portion of the base plate relative to the actuator arm.

38. (Currently amended) The data storage device ~~disk drive~~ of claim 37 further comprising a controller that selectively directs current to the first piezoelectric motor, the first piezoelectric motor being under compression while the controller is not directing current to the first piezoelectric motor.

39. (Currently amended) The data storage device ~~disk drive~~ of claim 37 wherein the proximal end and the distal end of the first piezoelectric motor are the only portions of the first piezoelectric motor that contact the base plate.

40. (Currently amended) The data storage device ~~disk drive~~ of claim 39 further comprising a second piezoelectric motor and a second positioner cavity, and wherein the second piezoelectric motor has a proximal end and a distal end, the ends of the second piezoelectric motor being secured to the base plate so that the second piezoelectric motor is under compression.

41. (Currently amended) The data storage device ~~disk drive~~ of claim 40 wherein the base plate includes a plate mount that secures the base plate to the actuator arm, and wherein at least one of the piezoelectric motors is secured to the base plate substantially between the plate mount and the data transfer member ~~transducer~~.

42. (Currently amended) The data storage device ~~disk drive~~ of claim 41 wherein the piezoelectric motors are substantially parallel to each other.

43. (Currently amended) The data storage device ~~disk drive~~ of claim 40 wherein the base plate includes a pair of flex sections that allow the base plate to flex, and wherein the piezoelectric motors do not contact the flex sections.

44. (Currently amended) The data storage device ~~disk drive~~ of claim 43 wherein at least one of the piezoelectric motors is positioned substantially between the flex sections.

45. (Currently amended) The data storage device ~~disk drive~~ of claim 43 wherein at least one of the flex sections is positioned substantially between the piezoelectric motors.

46. (Currently amended) The data storage device ~~disk drive~~ of claim 37 wherein the base plate includes a flex section that allows the base to flex, the flex section being substantially U-shaped.

47. (Currently amended) The data storage device ~~disk drive~~ of claim 37 wherein the base plate includes a flex section that allows the base to flex, the flex section being substantially V-shaped.

48. (Currently amended) The data storage device ~~disk drive~~ of claim 37 wherein the base plate includes (i) a plate side, and (ii) a flex section that allows the base plate to flex, the flex section cantilevering away from the plate side.

49. (Currently amended) The data storage device ~~disk drive~~ of claim 37 wherein the base plate includes (i) a pair of plate sides, and (ii) a pair of flex sections that allow the base to flex, each of the flex sections cantilevering away from a corresponding plate side.

50. (Currently amended) A data storage device ~~disk drive~~, comprising:

an actuator arm;

a data transfer transducer assembly including a load beam and a data transfer member ~~transducer~~ coupled to the load beam;

a ~~separately formed~~ base plate supporting the data transfer assembly and having a thickness that is about three times or more the thickness of the load beam ~~that secures the transducer assembly to the actuator arm~~, the base plate including a plate mount that secures the base plate to the actuator arm; and

a pair of piezoelectric motors that are each secured to the base plate between the plate mount and the data transfer member ~~transducer~~, the piezoelectric motors being substantially parallel to each other, the piezoelectric motors selectively moving a portion of the base plate relative to the actuator arm.

51. (Currently amended) The data storage device ~~disk drive~~ of claim 50 wherein each piezoelectric motor includes a proximal end and a distal end, wherein the ends of the piezoelectric motors are the only portions of the piezoelectric motors that contact the base plate.

52. (Currently amended) The data storage device ~~disk drive~~ of claim 50 wherein the ends of at least one of the piezoelectric motors are secured to the base plate so that the at least one piezoelectric motor is under compression.

53. (Currently amended) The data storage device ~~disk drive~~ of claim 50 wherein the base plate includes a pair of flex sections that allow the base plate to flex, and wherein at least one of the piezoelectric motors does not contact either of the flex sections.

54. (Currently amended) The data storage device ~~disk drive~~ of claim 53 wherein at least one piezoelectric motor is positioned between the flex sections.

55. (Currently amended) The data storage device ~~disk drive~~ of claim 54 wherein at least one of the flex sections is substantially U-shaped.

56. (Currently amended) The data storage device ~~disk drive~~ of claim 54 wherein the base plate includes a plate side, and wherein at least one of the flex sections cantilevers away from the plate side.

57. (Currently amended) The data storage device ~~disk drive~~ of claim 53 wherein at least one of the flex sections is positioned substantially between the piezoelectric motors.

58. (Currently amended) The data storage device ~~disk drive~~ of claim 57 wherein at least one of the flex sections is substantially V-shaped.

59. (Currently amended) A data storage device disk drive comprising:

an actuator arm;

a data transfer transducer assembly including a load beam and a data transfer member transducer coupled to the load beam;

a ~~separately formed~~ base plate that secures the data transfer transducer assembly to the actuator arm, the base plate including a pair of flex sections and a positioner cavity that extends through the base plate; and

a fine positioner including a pair of piezoelectric motors positioned so that the pair of flex sections are between the pair of piezoelectric motors, the fine positioner being that is secured to the base plate so that the fine positioner is positioned over at least a portion of the positioner cavity, the fine positioner selectively flexing at least a portion of the base plate.

60.-64. (Cancelled)

65. (Currently amended) The data storage device disk drive of claim ~~[[60]]~~ 59

wherein at least one of the piezoelectric motors is secured to the base plate under compression.

66. (Currently amended) The data storage device disk drive of claim ~~[[60]]~~ 59

wherein each of the piezoelectric motors is secured to the base plate under compression.

67. (Currently amended) A method for increasing the positioning accuracy of a disk drive, the method comprising the steps of:

securing a data transfer transducer assembly to an actuator arm via with a separately formed base plate having a flex-section that flexes pair of spaced apart flex sections;

securing a fine positioner including a pair of piezoelectric motors to the base plate so that the fine positioner is not in contact with the flex section, the pair of flex sections being positioned between the piezoelectric motors; and

flexing the flex section with the fine positioner to cause at least a portion of the base plate to move relative to the actuator arm.

68.-70. (Cancelled)

71. (Currently amended) The method of claim [[70]] 67 wherein the step of securing the data transfer transducer assembly includes providing the base plate having a plate side, and cantilevering the flex section away from the plate side.

72. (Cancelled)

73. (Previously presented) The method of claim 67 wherein the step of securing the fine positioner includes securing the fine positioner to the base plate so that the fine positioner is under compression.

74. (Currently amended) The method of claim 67 wherein the step of securing the data transfer transducer assembly includes using a plate mount of the base plate to secure the data transfer transducer assembly to the actuator arm, and wherein the step of securing the fine positioner includes (i) positioning the fine positioner to the base plate substantially between the plate mount and the data transducer, and (ii) ~~providing a pair of substantially parallel, spaced apart piezoelectric motors as the fine positioner.~~

75. (Currently amended) A data storage device disk drive, comprising:

an actuator arm;

a data transfer member transducer;

a load beam that is coupled to and supports the data transfer member transducer, the load beam having a thickness;

a base plate that secures the load beam to the actuator arm, the base plate having a thickness that is at least approximately three times the thickness of the load beam, the base plate including a flex section that allows the base plate to flex; and

a fine positioner that is secured to the base plate ~~so that the fine positioner does not contact the flex section, the fine positioner to~~ selectively flex flexing at least a portion of the base plate.

76. (New) A method comprising:

securing a data transfer assembly to an actuator arm via a load beam coupling a data transfer member to a base plate, the base plate having a flex section and a thickness of about three times or more of a thickness of the load beam;

securing a fine positioner to the base plate; and

flexing the flex section with the fine positioner to cause at least a portion of the base plate to move relative to the actuator arm.

77. (New) The method of claim 76 wherein the step of securing the fine positioner includes using a piezoelectric motor as the fine positioner.

78. (New) The method of claim 76 wherein the step of securing the data transfer assembly includes the base plate being characterized by a pair of spaced apart flex sections, and wherein the step of flexing the flex section is characterized by moving the fine positioner to flex each of the flex sections to cause at least a portion of the base plate to move relative to the actuator arm.

79. (New) The method of claim 78 wherein the step of securing the fine positioner includes using a pair of spaced apart piezoelectric motors as the fine positioner and positioning the piezoelectric motors substantially between the flex sections.

80. (New) The method of claim 79 wherein the step of securing the transducer assembly includes the base plate being characterized as having a plate side, and cantilevering the flex section away from the plate side.

81. (New) The method of claim 78 wherein the step of securing the fine positioner includes using a pair of piezoelectric motors as the fine positioner and positioning the flex sections substantially between the piezoelectric motors.

82. (New) The method of claim 76 wherein the step of securing the fine positioner includes securing the fine positioner to the base plate so that the fine positioner is under compression.

83. (New) The method of claim 76 wherein the step of securing the data transfer assembly includes using a plate mount of the base plate to secure the data transfer assembly to the actuator arm, and wherein the step of securing the fine positioner includes positioning the fine positioner to the base plate substantially between the plate mount and the data transfer member.

84.(New) The method of claim 76 wherein the base plate is separately formed.

85. (New) The head stack assembly of claim 6 wherein the base plate is separately formed.

86. (New) The data storage device of claim 22 wherein the base plate is separately formed.

87. (New) The data storage device of claim 37 wherein the base plate is separately formed.

88. (New) The data storage device of claim 50 wherein the base plate is separately formed.

89. (New) The data storage device of claim 59 wherein the base plate is separately formed.